

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-30. (cancelled)

31. Plant cells, comprising heterologous DNA encoding an EG307 polypeptide, wherein said polypeptide is capable of increasing the yield of a plant, wherein said polypeptide selected from the group consisting of :

a) a polypeptide encoded by a polynucleotide selected from the group consisting of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO: 91, SEQ ID NO:33, SEQ ID NO:34, and SEQ ID NO:35 ;

b) a polypeptide encoded by a polynucleotide having at least 84% sequence identity to a polynucleotide in a);

c) a polypeptide comprising SEQ ID NO:6 or SEQ ID NO:36; and

d) a polypeptide having at least 84% sequence identity to a polypeptide of c).

32. A propagation material of a transgenic plant comprising the transgenic plant cell according to claim 31.

33. A transgenic plant containing heterologous DNA which encodes an EG307 polypeptide that is expressed in plant tissue, wherein said polypeptide increases the yield of the plant, and said polypeptide selected from the group consisting of :

a) a polypeptide encoded by a polynucleotide selected from the group consisting of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO: 91, SEQ ID NO:33, SEQ ID NO:34, and SEQ ID NO:35;

b) a polypeptide encoded by a polynucleotide having at least 84% sequence identity to a polynucleotide in a);

c) a polypeptide comprising SEQ ID NO:6 or SEQ ID NO:36; and

d) a polypeptide having at least 84% sequence identity to a polypeptide of c) and which confers substantially the same yield as the polypeptide of c).

34. An isolated polynucleotide which includes a promoter operably linked to a polynucleotide that encodes ~~the~~ an EG307 gene in plant tissue, said polynucleotide selected from the group consisting of:

a) a polynucleotide selected from the group consisting of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO: 91, SEQ ID NO:33, SEQ ID NO:34, and SEQ ID NO:35;

b) a polynucleotide having at least 84% sequence identity to a polynucleotide of a),

c) a polynucleotide encoding a polypeptide comprising SEQ ID NO: 6; and

d) a polynucleotide encoding a polypeptide comprising a protein having at least 84% sequence identity to SEQ ID NO: 6, and which confers substantially the same yield as the polypeptide of c).

35. The isolated polynucleotide of Claim 34, wherein said polynucleotide is a recombinant polynucleotide.

36. (currently amended) The ~~method~~ polynucleotide of claim 34, wherein the promoter is the promoter native to an EG307 gene.

37-44. (cancelled).

45. A transfected host cell comprising a host cell transfected with a construct comprising a promoter, enhancer or intron polynucleotide from an evolutionarily significant EG307 polynucleotide or any combination thereof, operably linked to a polynucleotide encoding a reporter protein, wherein said EG307 polynucleotide is selected from the group consisting of:

a) a polynucleotide comprising selected from the group consisting of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO: 91, SEQ ID NO:33, SEQ ID NO:34, and SEQ ID NO:35;

b) a polynucleotide having at least 84% sequence identity to a polynucleotide of a),

c) a polynucleotide encoding a polypeptide comprising SEQ ID NO: 6; and

d) a polynucleotide encoding a polypeptide comprising a protein having at least 84% sequence identity to SEQ ID NO: 6, and which confers substantially the same yield as the polypeptide of c).

46. A method of identifying an agent which may modulate yield, said method comprising contacting at least one candidate agent with a plant or cell comprising an EG307 gene, wherein the agent is identified by its ability to modulate yield, and wherein said EG307 gene comprises a polynucleotide selected from the group consisting of:

a) a polynucleotide selected from the group consisting of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO: 91, SEQ ID NO:33, SEQ ID NO:34, and SEQ ID NO:35;

b) a polynucleotide having at least 84% sequence identity to a polynucleotide of a),

c) a polynucleotide encoding a polypeptide comprising SEQ ID NO: 6; and

d) a polynucleotide encoding a polypeptide comprising a protein having at least 84% sequence identity to SEQ ID NO: 6, and which confers substantially the same yield as the polypeptide of c).

47. The method of Claim 46, wherein the plant or cell is transfected with a polynucleotide of a), b), c), or d)-encoding and EG307 gene.

48. (cancelled)

49. The method of claim 46, wherein said identified agent modulates yield by modulating a function of the polynucleotide encoding the polypeptide.

50. The method of claim 46, wherein said identified agent modulates yield by modulating a function of the polypeptide.

51. (cancelled)

52. (cancelled)

53. (currently amended) A method of producing an EG307 polypeptide comprising:

a) providing a cell transfected with a polynucleotide encoding an EG307 polypeptide positioned for expression in the cell;

b) culturing the transfected cell under conditions for expressing the polynucleotide; and

c) isolating the EG307 polypeptide, wherein said polypeptide is selected from the group consisting of :

- i) a polypeptide encoded by a polynucleotide selected from the group consisting of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO: 91, SEQ ID NO:33, SEQ ID NO:34, and SEQ ID NO:35;
- ii) a polypeptide encoded by a polynucleotide having at least 84% sequence identity to a polynucleotide in i);
- iii) a polypeptide comprising SEQ ID NO:6 or SEQ ID NO:36; and
- iv) a polypeptide having at least 84% sequence identity to a polypeptide of iii).

54-78. (cancelled)

79. (new) A method of detecting a yield-increasing gene in a plant cell comprising contacting the EG307 gene or a portion thereof greater than 12 nucleotides length with a preparation of nucleic acids from the plant cell under hybridization conditions providing detection of nucleic acid molecule sequences having about 50% or greater sequence identity to the a nucleic acid molecule selected from the group consisting of SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO: 91, SEQ ID NO:33, SEQ ID NO:34, and SEQ ID NO:35.